Work Order ID 88278

August-01-12 2:44:48 PM

88278

Item ID: D3671-1 **Accept** *N900040100* **Setup Start** *NS1*

Revision ID:

Item Name: Placard **Stop** *NS2*

30

Start Date: 7/27/12 **Start Qty:** 12.00 ~~*19*~~

Required Date: 8/10/12 **Req'd Qty:** 12.00 *12*

Reference:

Cust Item ID:

Customer:

Approvals: **Process Plan:** MLJ **Date:** 12/08/03 **Tooling:** _____ **Date:** _____

QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Run Start *NR1*

Stop *NR2*

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp

Draw Nbr	Revision Nbr
D3671	Rev A

100 0.00

100

Purchasing

Purchasing

PURCHASING

Memo 0.00

Issue P/O: 17626 Make as per Dwg D3671Red letters (0.100" height) on white adhesive backPossible Manufacture: From 3M 7 mil masking film # 8522CP or Avery IPM # 2031Possible Supplier: Studio LettrageMaterial release note is required

CL 12/08/07 30

110 Receive & Inspect for Damage & Mat'l Certs 0.00

110

Packaging

Packaging

Memo 0.00

Ensure Material Release Note is attached

30

120 QC6- Inspect dimensions to drawing 0.00

120

QC

Quality Control

Memo

0.00 DAS 16 3-89 12/08/10

counts

x30

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐ ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio

☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions

☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge

☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled

☐ Other _____

Work Order ID 88278

August-01-12 2:44:49 PM

88278

Item ID: D3671-1 **Accept** *N900040100* **Setup Start** *NS1*
Revision ID: **Stop** *NS2*
Item Name: Placard

Start Date: 7/27/12 **Start Qty:** 12.00 *12*
Required Date: 8/10/12 **Req'd Qty:** 12.00 *12*
Reference:

Cust Item ID:
Customer:

Run Start *NR1*
Stop *NR2*

Approvals: **Process Plan:** _____ **Date:** _____ **Tooling:** _____ **Date:** _____
QC: _____ **Date:** _____ **SPC (Y/N):** _____ **Date:** _____

Sequence ID/ Work Center ID	Operation Description	Set Up/ Run Hours	Tool ID	Tool #	Plan Code	Accept Qty	Reject Qty	Reject Number	Insp. Stamp
130	Identify as per dwg & Stock Location: G-A	0.00				30x			12/08/10
130									
Packaging	**Memo**	0.00							
Packaging									
140	QC21- Final Inspection - Work Order Release	0.00							12/8/13
140									
QC	**Memo**	0.00							
Quality Control									

MCJ 12/08/10

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

Rework ☐
Scrap ☐
Use-as-is ☐
Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

Skid-tube ☐ Crosstube ☐ Water Jet ☐ Engineering ☐
Machining ☐ Small Fab ☐ Prod. Eng. Coor. ☐ Quality ☐
Thermoforming ☐ Finishing ☐ Rec/Store/Packaging ☐ Other ☐
Large Fab ☐ Composite ☐ Supplier ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

☐ Bending
☐ Centre Not Concentric to O/S
☐ Cracks
☐ Crushed/Crimped
☐ Cuffs
☐ Heat Treat
☐ Inspection Strip in Tube
☐ Ripples in Bend
☐ Torque Waves in Extrusion
☐ Turning Sequence
☐ Wave/Twist in Tube

General

☐ Bend
☐ BOM/Route
☐ Broken/Damaged
☐ Burrs
☐ Contamination
☐ Countersink
☐ Cut Too Short
☐ Drill Holes
☐ Drawing
☐ Finish
☐ Folio
☐ Grain
☐ Hardware
☐ Inspection Incomplete
☐ Instructions Incomplete/Unclear
☐ Maintenance
☐ Mislabeled
☐ Misread
☐ Offset
☐ Out of Calibration
☐ Out of Sequence
☐ Outside Dimensions
☐ Ovalized
☐ Over/Under tolerance
☐ Part Incorrect
☐ Part Lost/Missing
☐ Part Moved
☐ Positioned Wrong
☐ Power Loss/Surge
☐ Pressure/Forced
☐ Temperature/Cure
☐ Weld
☐ Wrong Stock Pulled
☐ Other _____

Picklist Print

August-01-12 2:44:48 PM

Work Order ID: 88278

Parent Item: D3671-1

Parent Item Name: Placard

Start Date: 7/27/12 **Required Date:** 8/10/12

Start Qty: 12.00 **Required Qty:** 12.00

Comments: IPP: A07.11.12 ecn 1019 New issue EC verified by:DD

Component Item ID/ Item Name	Replacement Item ID	Mfg/ Purch	Bin Item	Primary Location	Last Location	Route Seq ID	Unit of Measure	Qty on Hand	Qty per Kit	Total Qty	Qty Issued	Date Issued	Status
D3671-1P Placard		Purchased	No				Each	0.0000		~~12~~ 30	30		

DQA: _____ Date: _____

NCR: Yes / No

WORK ORDER NON-CONFORMANCE / UPDATE

QA Closed: Date:

Work Order: _____

Part No. _____

NCR No. _____

DISPOSITION

- Rework ☐
- Scrap ☐
- Use-as-is ☐
- Work Order Update ☐

AGAINST DEPARTMENT/PROCESS

- Skid-tube ☐
- Machining ☐
- Thermoforming ☐
- Large Fab ☐
- Crosstube ☐
- Small Fab ☐
- Finishing ☐
- Composite ☐
- Water Jet ☐
- Prod. Eng. Coor. ☐
- Rec/Store/Packaging ☐
- Supplier ☐
- Engineering ☐
- Quality ☐
- Other ☐

Root Cause		Date	Step	Qty	Description of work order update or Non-conformance	Initial Chief Eng	Action Description	Sign & Date	Verification	QC Inspector
Doc/Data	☐									
Equip/Tooling	☐									
Operator	☐									
Material	☐									
Setup	☐									
Other	☐									
Process	☐									
Supplier	☐									
Training	☐									
Unapproved	☐									

FAULT CATEGORY

Landing Gear

- ☐ Bending
- ☐ Centre Not Concentric to O/S
- ☐ Cracks
- ☐ Crushed/Crimped
- ☐ Cuffs
- ☐ Heat Treat
- ☐ Inspection Strip in Tube
- ☐ Ripples in Bend
- ☐ Torque Waves in Extrusion
- ☐ Turning Sequence
- ☐ Wave/Twist in Tube

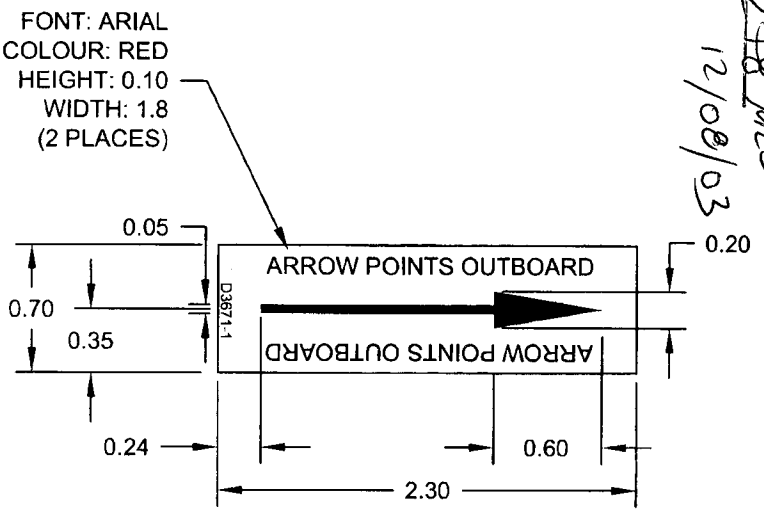
General

- ☐ Bend
- ☐ BOM/Route
- ☐ Broken/Damaged
- ☐ Burrs
- ☐ Contamination
- ☐ Countersink
- ☐ Cut Too Short
- ☐ Drill Holes
- ☐ Drawing
- ☐ Finish
- ☐ Folio
- ☐ Grain
- ☐ Hardware
- ☐ Inspection Incomplete
- ☐ Instructions Incomplete/Unclear
- ☐ Maintenance
- ☐ Mislabeled
- ☐ Misread
- ☐ Offset
- ☐ Out of Calibration
- ☐ Out of Sequence
- ☐ Outside Dimensions
- ☐ Ovalized
- ☐ Over/Under tolerance
- ☐ Part Incorrect
- ☐ Part Lost/Missing
- ☐ Part Moved
- ☐ Positioned Wrong
- ☐ Power Loss/Surge
- ☐ Pressure/Forced
- ☐ Temperature/Cure
- ☐ Weld
- ☐ Wrong Stock Pulled
- ☐ Other

_____

_____

_____



D3671-1 PLACARD

NOTES:

1) MATERIAL: RED ARROW ON WHITE ADHESIVE BACK VINYL
MANUFACTURED FROM 3M 7 MIL MASKING FILM #8522CP
OR AVERY IPM #2031. SIZE IS 2.30" LONG x 0.70" WIDE
2) FINISH: NONE
3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
4) UNITS: INCHES UNLESS OTHERWISE NOTED
5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
6) IDENTIFICATION: NONE
7) WEIGHT: N/A

RELEASED
07.11.06

REV.	DESCRIPTION	BY	DATE
A	NEW ISSUE	DC	07.08.27

DESIGN	DC	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	DC		
CHECKED	DE	DRAWING NO.	REV. A
MFG. APPR.		D3671	SHEET 1 OF 1
APPROVED		TITLE	SCALE
DE APPR.		PLACARD	1:1
DATE	07.08.27		

****Certificate of Conformity****			
Customer: Studio Lettrage			
Purchase Order #: 17626	**Packing Slip #:**	**Part #:** D3676-1P D3012-5P	**Serial #:**
Description: 30 stickers # D3676-1P 10 stickers # D3012-5P		**Quantity:** 40	

Certification:

We hereby certify that:

1. The above the listed items were manufactured, repaired and/or inspected in accordance with applicable drawings and/or specifications;

2. All work was accomplished in accordance with the Dart Aerospace Purchase Order;

3. Results of all inspections, chemical or physical tests, as well as other evidence, which shows the acceptability of raw materials, parts and/or assembly components are on file and available for inspection at any time.

Authority: 3M

APPROVAL: GRACE BATISTA **Signature:**	**DATE:** 9-August-2012
Title:	

Studio de Lettrage
210 Main Street W
Hawkesbury, Ontario K6A 2H6

INVOICE

Invoice No.: 18500
Date: 08/08/2012
Ship Date: 08/09/2012
Page: 1
Re: Order No. WO8064

Sold to:

Dart Aerospace Ltd
1270 Aberdeen
Hawkesbury, Ontario K6A 1K7

Ship to:

Dart Aerospace Ltd

Hawkesbury, Ontario

Business No.: 82500 7651 RT0001

Item No.	Unit	Quantity	Description	Tax	Unit Price	Amount
		30	D3671-1P	H	3.875	116.25
		10	D3012-5P	H	3.875	38.75
			H - HST 13% S17/06/12			
			HST			20.15

Studio de Lettrage HST: #825007651RT0001

Shipped By: Tracking Number:

Comment: PO17626

Sold By:

Total Amount 175.15

Product & Instruction Bulletin 8522
Release I, Effective September 2008
See Bulletin Change Summary and end of Bulletin
This Bulletin now includes Instruction Bulletin 4.23

Scotchcal™ Changeable Opaque Imaging Media
8522

For Thermal Inkjet Printing

Product Description

This durable, 7 mil, opaque, changeable film is optimized for use with selected thermal inkjet printers and inks. Ink dries quickly on the film. When overlaminated, it is warranted for medium term, outdoor weatherable graphics, and long term indoor graphics.

Recommended Types of Graphics and End Uses

When constructed and used as described in this Bulletin, these types of graphics and end uses may be warranted by the 3M™ MCS™ Warranty. Please read the entire Bulletin for details.

- First surface images (the image is on top of the film) for opaque posters and signs, including:
  - Graphics for vans, personal vehicles, trucks and buses
  - Novelty posters
  - Retail and point-of-purchase displays
  - Information graphics such as maps and directories
  - Entertainment promotions in museums, zoos, parks, theatres, sports venues
  - Education and presentation graphics
  - Legal and courtroom exhibits
- For flat or simple curved surfaces, with or without rivets, used in vertical (± 10°) applications

Limitations of End Uses

3M specifically does not recommend or warrant the following uses, but please contact us to discuss your needs or recommend other products.

Unsuitable End Uses for This Product

- Not for electronically cut individual letters and numbers
- Fleet applications in areas that use salt for winter road maintenance
- Application to non-warranted substrates, including wallboard
- Applications subjected to gasoline vapors or spills
- Application to corrugated or highly irregular surfaces or sharply raised areas
- Graphics applied to stainless steel, including stainless steel vehicles
- On flat surfaces with rivets, tenting of 4 to 10 mm around rivets may be expected; rivets may be cut around to eliminate tenting.
- Graphics made for automotive Original Equipment Manufacturers (OEM); contact 3M Automotive Division at 1-800-328-1684 for alternatives.

About Water-Based Inkjet Technology

Standard inkjet technology is water based. Water-based chemistry is susceptible to the extremes of heat and humidity. This is a factor in most product constructions on the market. Read the Fabrication, Shelf Life and Storage sections in this Bulletin. Staying in the middle of these ranges always provides optimum performance.

Characteristic	Description
Warranted application substrates	Some substrates may "out-gas", resulting in tiny bubbles throughout the surface of the graphic. For maximum performance, be sure the substrate you select is properly cleaned and prepared as recommended by the manufacturer. See Instruction Bulletin 5.1 for additional information. • Alodine (anodized aluminum) • Automotive panels (automotive painted steel) • Fruehauf (painted aluminum) • FRP (fiberglass reinforced plywood) • Glass • Imron® (polyurethane-painted metal panel) • Acrylic • Sintra™ board Note: Use on any other substrate is strictly on a graphics manufacturer and customer test and approve basis. Test for both adhesion and removal characteristics. The plasticizer in some banner materials may migrate. This may cause the edge of the graphic to peel or lift off of the banner. For optimum performance, follow the guidelines in the section, Creating A Laminated Overlap, on page 4.

Warranty Information

The warranty given in the Product Bulletin that is current at the time you purchased the film is the one that 3M will honor. **The warranties in the following table(s), given in years, are for finished graphics exposed in a vertical exposure in the United States except the Desert Southwest.** See the warranty sections following this table for additional information.

3M™ MCS™ Warranty
Durability for Finished Graphics

Construction (film and overlaminate on warranted substrate	HP Printers & Inks		Epson Printers & Inks		Removal
	Outdoor	Indoor	Outdoor	Indoor	
8522/8519 8522/8520	3 years	5 years	2 years	5 years	1 year without chemical strippers or tools

Warranty and Limited Remedy

The following is made in lieu of all other express or implied warranties, including any implied warranty of **merchantability** or fitness for a particular purpose or implied warranty arising out of a course of dealing, custom or usage of trade: all 3M products are warranted to be free of defects in materials and manufacture at the time of shipment and to meet the specifications stated in this Product Bulletin. 3M will replace or refund the price of any 3M materials that do not meet this warranty within the specified time periods. These remedies are exclusive. **In no case shall 3M be liable for any direct, indirect, or consequential damages, including any labor or non-3M materials charges.**

See the Graphics Market Center Warranty Brochure, which gives the terms, additional limitations of the warranty, if any, and limitations of liability.

8. Flip the graphic over. You can roll the graphic for easier handling, if desired.
9. Strip back some of the liner, starting at the taped edge. Do not allow the adhesive to touch the substrate yet.
10. For hand lamination only:
    a. Hold the graphic up with one hand and use the other hand to hold the squeegee.
    b. Starting in the middle of the taped edge of the graphic, use smooth, overlapping strokes to each side of the graphic.
    c. Stop immediately if you notice some wrinkling. Lift the wrinkled area and reposition. Then gently squeegee the wrinkle to finish smoothing it.
    d. Pull back some more liner and continue squeegeeing the graphic. To finish the graphic, trim the substrate to the desired size.
11. For a laminator only:
    a. Position the taped edge of the graphic into the laminator nip.
    b. Start the laminator.
    c. As the graphic is pulled through the nip, continue pulling off the liner.
    d. To finish the graphic, trim the substrate to the desired size.
12. After applying the graphic, resqueegee all edges firmly. Premature lifting of the graphic may occur if the edges are not adequately laminated.

End of Day Protocol

- Unthread the web from the printer and tape the roll closed at the center. It is not necessary to remove the roll from the printer.
- If the media will not be used for a few days, remove it from the printer and rewrap it. See *Shelf Life, Storage and Shipping* on page 4.

Care and Cleaning of Graphics

Avoid contact between the finished graphic and water or other liquids during production, handling, and application, especially before laminating.

Use a cleaner designed for high-quality painted surfaces. The cleaner must be wet, non-abrasive, without strong solvents, and have a pH value between 3 and 11 (neither strongly acidic nor strongly alkaline.)

Refer to 3M Instruction Bulletin 6.5 for general maintenance and cleaning information.

Removing Graphics

Always test the substrate for removal before applying the final graphic. Paint that has poor adhesion to the substrate may be pulled off when removing the film. Aged surfaces with oxidation or chalking may leave adhesive residue on the substrate after the film is removed.

If the substrate surface is appropriately sealed, just lift an edge of the graphic and peel it back at a 180 degree angle; lesser angles may leave adhesive residue. No heat or chemicals are required.

Health and Safety

⚠ CAUTION

When handling any chemical products, read the manufacturers' container labels and the Material Safety Data Sheets (MSDS) for important health, safety and environmental information. To obtain MSDS sheets for 3M products go to 3M.com/MSDS, or by mail or in case of an emergency, call 1-800-364-3577 or 1-651-737-6501.

When using any equipment, always follow the manufacturers' instructions for safe operation.